

# Project Title and Brief Abstract



- **NASA RECOVER DSS**
- Keith T. Weber<sup>1</sup>, John Schnase<sup>2</sup>, Mark Carroll<sup>2</sup>, Roger Gill<sup>2</sup>, Kindra Blair<sup>1</sup>, and Maggie Wooten<sup>2</sup>
- Partners: BLM, Idaho Dept. of Lands, USFS
- Project Summary: Post-wildfire decision support system to assist agency partners in developing a well-informed recovery plan.
  - The RECOVER DSS has been used for **33** wildfires and assisted with the Ft. McMurray, Alberta, Canada wildfire
  - These 33 wildfires burned 1.7 million acres
- Earth Observations applied: Landsat, MODIS, Merra

1- ISU GIS TReC

2- NASA Goddard Space Flight Center

# RECOVER: Rehabilitation Capability Convergence for Ecosystem Recovery

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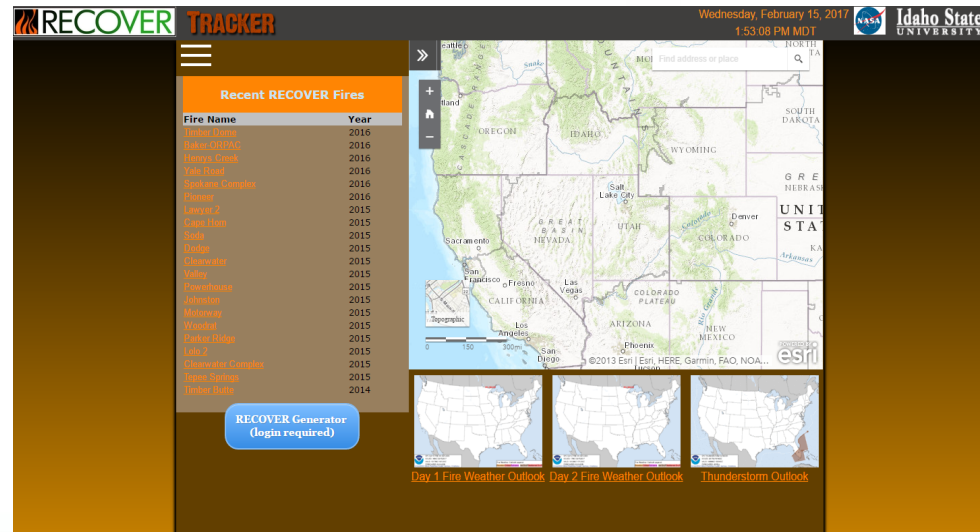
and Co-I/NASA PI: John L Schnase, NASA GSFC (john.l.schnase@nasa.gov, 301.286.4351)



## Purpose & Objective

- RECOVER brings together in a single application all the *information* needed for ES&R and BAER wildfire rehabilitation planning and long-term ecosystem monitoring.
- RECOVER's system components include the RECOVER Server and RECOVER Clients (desktop and mobile decision support applications) that integrate *information* about fire severity with other geospatial data to better inform rehabilitation strategies.

Targeted End-Users: Federal agency USDA/USFS, US State agency IDL



## Approach

- RECOVER team matured both Server and Client and increased capabilities to become a full production environment.
- Includes full geospatial coverage across 11 western states.
- New end-users at the USFS, NPS, and NWS engaged along with Idaho Transportation Dept.
- Anticipate increased use of NASA GSFC's High-Performance Science Cloud to facilitate operation of long-term post-fire monitoring with NASA earth observing systems (Wrangler).

## Key Milestones

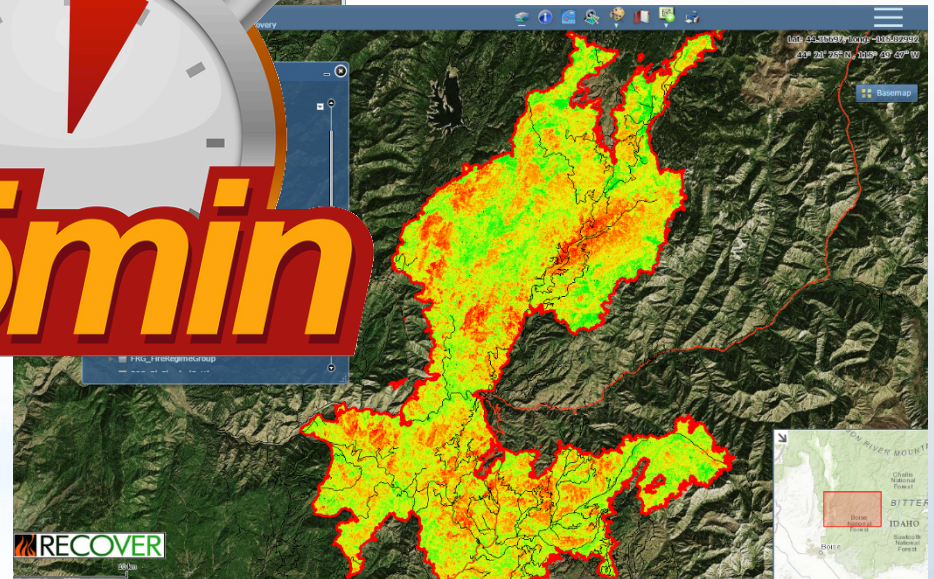
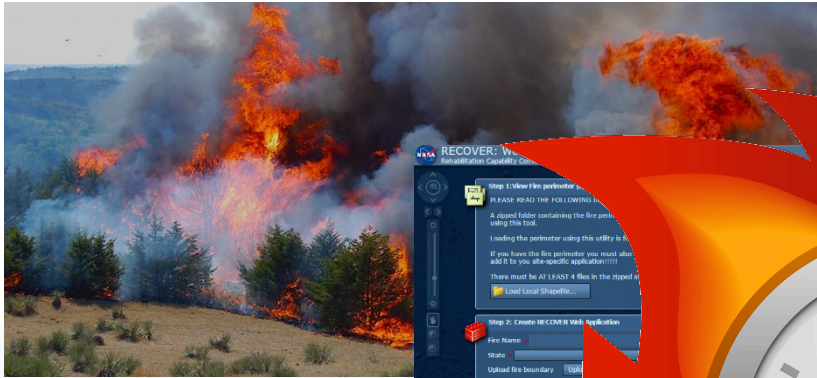
Milestone Statement	Date
Offer a webinar for partners	04/17
Formalize relationships/agreements with partners to continue RECOVER	06/17
Complete "Wrangler", long-term monitoring automation	07/17

ARL<sub>Start</sub> = 1

ARL<sub>Most Recent</sub> = 6

ARL<sub>Goal</sub> = 8

# ***Biggest Achievement to Date: The Capability***







**CHALLENGE: Transition period (more later)**

**CHANGE: Welcome addition of “*Evaluating the Socioeconomic Impacts of Rapid Assembly and Geospatial Data in Wildfire Emergency Response Planning*” (more tomorrow)**





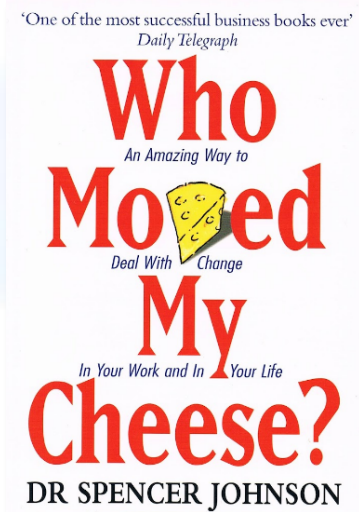
# PI Overall Assessment: Current Status



## Summary of Challenges; Problems; Objective Analysis

Getting commitment for continuation by end-user partners

Some prefer doing things as they have always done them



Letting more potential end-users know about RECOVER

## Summary of Progress

1. On-going discussions and interest from NIFC as well as Idaho state office of BLM, and Idaho Dept. of Lands.
2. We have users!



- An important goal for the RECOVER DSS is to have it accepted into the workflow of our end-user partners
- To a large extent, this acceptance has been achieved
- But, we also need to ensure RECOVER continues following the end of NASA funding



## PI Assessment: Transition Plan (2 of 4)

- There is interest!
- Current focus is on ISU's GIS TReC continuing to support/host RECOVER on its servers
  - ISU GIS TReC would maintain current geospatial base layers ( $n = 25$ )
  - And host both the *Generator*, web-maps, and underlying web services



- We will most likely request a 1-year no-cost extension for RECOVER and the new Socioecon part of this project



# PI Overall Assessment: Transition (4 of 4)



We have the interest (NIFC, BLM, IDL)

Our users are growing (Idaho Dept. of homeland security, Idaho Transportation Department)

The hurdle will be getting our end-user partners to pay for something they have been getting for free

This may include a cost-benefit analysis (completion of the socioecon. part of the project)

*Scientists are not sales people*

It may help to be part of meetings with these end-user partners, even by teleconference

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Budget progress and future plans to spend down the funding by year:

We are planning to request a one-year no-cost extension

# PI Overall Assessment: Impact



## Honest Opinion

RECOVER:

It **WORKS**

It is fully functional!

33 fires  
1.7 M  
acres

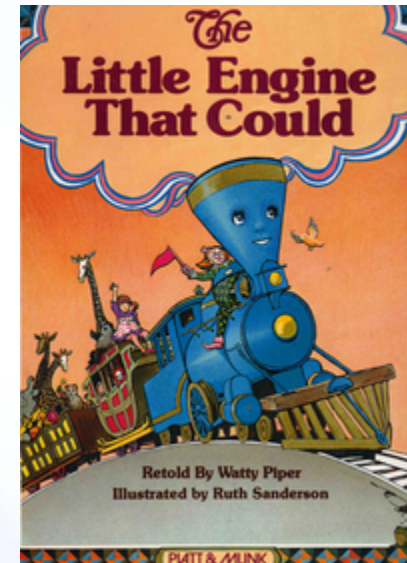
It is **USED**

But, will it continue?



## Project's Impact/Potential as an Analogy

From our childhood, many of us remember...



We have worked very hard to climb that hill, all the time saying "I think I can"...  
**That hill is the successful transition**  
with our end-user partners



# *Relevant Publications, Awards, Accomplishments*



- Paper in review (IGAARS)
- Successful presentations at Intermountain GIS Users' Conference (Montana) and the Esri International Users' Conference (UC)
- And, I would like to share results of a user survey (next slide)

# Inquiring Minds Want to Know...

Statement	Strongly Agree	View it graphically				
Vegetation/landscape recovery can be adequately monitored using moderate resolution imagery (250 meters per pixel) because recovery trend is very important.	0					
Vegetation recovery requires detailed/high resolution imagery because specific acreages within a fire must be assessed.	16					
Frequent imagery (approximately every two weeks) is more important than seasonal imagery (one image per growing season/year)	4					
Cost of imagery acquisition and processing is an important consideration	15					
Free imagery acquisition is a very important consideration	22					
I would rather have free, frequent, moderate resolution imagery than costly, seasonal, high-resolution imagery	13					
I would rather receive actionable information (imagery showing good recovery versus poor recovery) instead of raw data	16					
Interpreting and understanding the imagery (regardless of its resolution) is always difficult	3					
I prefer completed reports describing long-term monitoring trends for a fire instead of imagery/maps	1					